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| 10/695,461 | 10/28/2003 | Harumi Anne Kuno | 200207002-1 | 5631 |
| 22879 | 7590 | 09/06/2007 | EXAMINER | |
| HEWLETT PACKARD COMPANY | | | PANTOLIANO JR, RICHARD | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|-----------------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/695,461 | KUNO ET AL. |
| | Examiner Richard Pantoliano Jr | Art Unit 2194 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 June 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-4, 6-16, 18, 19, 21-23 and 25-28 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4, 6-16, 18, 19, 21-23, and 25-28 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

1. This Office Action is filed in response to amendments filed on 18 June 2007 in regard to Application# 10/695,461. **Claims 1-4, 6-16, 18, 19, 21-23, and 25-28** are currently pending and have been considered below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1,2, 6-9, 12-14, 18, 19 and 25-27** are rejected under 35 U.S.C. 102(e) as being anticipated by Eanes (US PGPub: 2003/0005412):

4. As per **Claim 1**, Eanes discloses the invention substantially as claimed including a processor-implemented method for interfacing with a distributed computing service, comprising:

- a) accessing an ontology specification describing messages of the distributed computing service (Fig. 1, item 4 and para. [0026]-[0029]);
- b) accessing a semantic interpretation specification that describes rules for semantically handling the messages, as specified in the ontology specification, with the distributed computing service (para. [0026]-[0045]);

c) entering the semantic interpretation specification into a rules engine adapted for providing processor executable procedures (para. [0049]-[0057]);

e) obtaining a set of procedures from the rules engine for interacting with the distributed service based on the semantic interpretation specification (para. [0026]-[0029]);

f) receiving a request for interfacing with the distributed service (para. [0028]);

and

g) interfacing with the distributed computing service using the set of procedures in response to the request, wherein the interfacing comprises forming distributed computing service messages based on the ontology specification (Fig. 1, item 4 and para. [0026]-[0029]).

5. As per **Claim 2**, Eanes further teaches wherein the distributed computing service comprises a Web service (para. [0013], [0026], [0028], [0057] and [0058]).

6. As per **Claim 6**, Eanes further teaches wherein interfacing with the distributed computing service using the set of procedures comprises forming a service bridge having a generic programmatic interface adapted to receive the request (para. [0028]) (The agent meets this claim limitation).

7. As per **Claim 7**, Eanes discloses the invention substantially as claimed including an apparatus, comprising:

a) a data transfer interface for providing data connections to a distributed computing service (para. [0013], [0018], [0057], [0058] and Fig. 1) (Since this apparatus functions on a network, it inherently requires that the apparatus have a network interface card to communicate on that network, thereby meeting this claim limitation); and

b) a processor arranged to:

- i) access an ontology specification describing messages of the distributed computing service (Fig. 1, item 4 and para. [0026]-[0029]);
- ii) access a semantic interpretation specification that describes rules for semantically handling the messages, as specified in the ontology specification, used to interface with the distributed computing service (para. [0026], [0029]-[0045]);
- iii) enter the semantic interpretation specification into a rules engine adapted for providing processor executable procedures (para. [0049]-[0057]);
- iv) obtain a set of procedures from the rules engine for interacting with the data transfer service based on the semantic interpretation specification (para. [0026]-[0029]); and
- v) interface with the distributed computing service via the data transfer interface using the set of procedures, wherein the interfacing includes forming distributed computing service messages based on the ontology specification (Fig. 1, item 4 and para. [0026]-[0029]).

8. As per **Claim 8**, this claim is rejected for the same reasoning applied to **Claim 7**.

9. As per **Claim 9**, Eanes further teaches wherein the distributed computing service comprises a Web service (para. [0013], [0026], [0028], [0057] and [0058]).

10. As per **Claim 12**, Eanes further teaches a memory and a service bridge module stored in the memory, the service bridge module operable via the processor to activate the set of procedures based on instructions from a generic programmatic interface of the service bridge module (para. [0015], [0028] and Fig. 1).

11. As per **Claims 13, 14, and 18**, being directed to a computer readable medium encoded with instructions for performing the method of **Claims 1,2,5, and 6**, respectively, these claims are rejected for the same reasoning as provided for **Claims 1, 2, 5 and 6**, respectively.

12. As per **Claim 19**, Eanes discloses the invention substantially as claimed including a system comprising:

- a) means for providing a distributed computing service (para. [0013], [0026], [0028], [0057] and [0058]);
- b) means for storing an ontology specification describing messages of the distributed computing service (Fig. 1, and para. [0026]-[0029]);

- c) means for storing a semantic interpretation specification that describes rules for semantically handling the messages, as specified in the ontology specification, used to interface with the distributed computing service (para. [0049]-[0057]);
- d) means for accessing the semantic interpretation specification for entry into a rules engine adapted for providing processor executable procedures (para. [0026]-[0029]);
- e) means for accessing an ontology describing messages of the distributed computing service (Fig. 1, and para. [0026]-[0029]);
- f) means for obtaining a set of procedures from the rules engine for interacting with the distributed service based on the semantic interpretation specification (para. [0026]-[0029]);
- g) means for forming distributed computing service messages based on the ontology for use in the set of procedures; and
- h) means for interfacing with the distributed computing service using the set of procedures (para. [0026]-[0029]).

13. As per **Claim 25**, Eanes discloses the invention substantially as claimed including a system comprising:

- a) a first data processing arrangement configured to provide a distributed computing service (para. [0026], [0029]-[0045]);

b) a data storage arrangement containing a semantic interpretation specification describing a behavior used to interface with the distributed computing service (para. [0026], [0029]-[0045]);

c) a second data processing arrangement having a rules engine adapted for providing processor executable procedures, the second data processing arrangement configured to:

- i) receive a request to interface with the distributed computing service (para. [0028]);
- ii) access the semantic interpretation specification from the data storage arrangement (para. [0026], [0029]-[0045]);
- iii) enter the semantic interpretation specification into the rules engine (para. [0049]-[0057]);
- iv) obtain a set of procedures from the rules engine for interacting with the distributed service based on the semantic interpretation specification (para. [0026]-[0029]); and
- v) interface with the distributed computing service using the set of procedures (para. [0028]).

14. As per **Claim 26**, Eanes further teaches wherein the distributed computing service comprises a Web service (para. [0013], [0026], [0028], [0057] and [0058]).

15. As per **Claim 27**, Eanes further teaches wherein the a data storage arrangement is adapted for providing the semantic interpretation specification via a network (para. [0013], [0018], [0057], [0058] and Fig. 1) (Since this apparatus functions on a network, it inherently requires that the apparatus have a network interface card to communicate on that network, thereby meeting this claim limitation).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claim 3, 4, 10, 11, 15, 16, 21-23, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Eanes in view of Ott et al (US PGPub: 2002/0150093), hereafter Ott.

18. As per **Claim 3**, Eanes teaches the method of **Claim 1**, but does not explicitly teach wherein the semantic interpretation specification comprises an expert system interpretable specification.

19. Ott teaches wherein the semantic interpretation specification comprises an expert system interpretable specification (para. [0058]-[0081]).

20. It would have been obvious to one of ordinary skill at the time of invention to modify the method of Eanes with the teachings of Ott. One would have been motivated by the fact that Eanes explicitly states that the process of generating agents can be automated (para. [0016] and [0028]) based on the rules provided and Ott explicitly states that the primary purpose of an expert system can be used to automate processes normally performed by humans in a networked system (para. [0058]-[0061]).

21. As per **Claim 4**, Ott further teaches wherein the semantic interpretation specification comprises rules usable with a rule-based expert system (para. [0058]-[0081]).

22. As per **Claim 10**, Eanes teaches the apparatus of **Claim 8**, but does not explicitly teach wherein the semantic interpretation specification comprises an expert system interpretable specification.

23. Ott teaches wherein the semantic interpretation specification comprises an expert system interpretable specification (para. [0058]-[0081]).

It would have been obvious to one of ordinary skill at the time of invention to modify the apparatus of Eanes with the teachings of Ott. One would have been motivated by the fact that Eanes explicitly states that the process of generating agents can be automated (para. [0016] and [0028]) based on the rules provided and Ott explicitly states that the primary purpose of an expert system can be used to automate processes normally performed by humans in a networked system (para. [0058]-[0061]).

24. As per **Claim 11**, Ott further teaches wherein the semantic interpretation specification comprises rules usable with a rule-based expert system (para. [0058]-[0081]).

25. As per **Claims 15 and 16**, being directed to a computer readable medium encoded with instructions for performing the method of **Claims 3 and 4**, respectively, these claims are rejected for the same reasoning as provided for **Claims 3 and 4**, respectively.

26. As per **Claim 21**, Eanes discloses the invention substantially as claimed including a method of interfacing with a distributed computing service comprising:

- a) accessing an ontology specification describing the message type (Fig. 1, and para. [0026]-[0029], [0057]-[0058]);
- b) accessing a semantic interpretation specification describing rules for semantically handling the messages, as specified in the ontology specification, with the distributed computing service based on the message type (para. [0026], [0029]-[0045]);
- c) entering the semantic interpretation specification into a rules engine adapted for providing processor executable procedures (para. [0049]-[0057]);
- d) obtaining a set of procedures from the rules engine for interacting with the distributed service based on the semantic interpretation specification (para. [0026]-[0029]); and

e) interfacing with the distributed computing service using the set of procedures in response to the message, wherein the interfacing comprises forming a distributed computing service message based on the ontology specification and outputting the message (para. [0028]).

27. Eanes does not explicitly teach receiving a message from the distributed computing service and identifying a message type of the message for processing of the message.

28. Ott teaches receiving a message from the distributed computing service and identifying a message type of the message for processing of the message (para. [0080] and [0081], [0084] and [0085]).

29. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Eanes with the teachings of Ott. One would have been motivated by the fact that a client must receive a message, either directly or indirectly, from a Web service describing the services offered by the service and how to further communicate with that service.

30. As per **Claim 22**, Eanes further teaches wherein the distributed computing service comprises a Web service (para. [0013], [0026], [0028], [0057] and [0058]).

31. As per **Claim 23**, Ott further teaches wherein the semantic interpretation specification comprises expert system rules (para. [0058]-[0081]).

32. As per **Claim 28**, Eanes teaches the method of **Claim 1**, but does not explicitly teach wherein the semantic interpretation specification comprises expert system rules.
33. Ott teaches wherein the semantic interpretation specification comprises a expert system rules (para. [0058]-[0081]).
34. It would have been obvious to one of ordinary skill at the time of invention to modify the method of Eanes with the teachings of Ott. One would have been motivated by the fact that Eanes explicitly states that the process of generating agents can be automated (para. [0016] and [0028]) based on the rules provided and Ott explicitly states that the primary purpose of an expert system can be used to automate processes normally performed by humans in a networked system (para. [0058]-[0061]).

Response to Arguments

35. Applicant's arguments filed **18 June 2007** have been fully considered but they are not persuasive.
36. In response to the Office Action dated **06 April 2007**, Applicant argues:
 - a) Eanes does not teach an ontology specification and semantic interpretation specification;
 - b) Eanes in view of Ott does not meet the limitation of an expert system as Applicant has used it; and
 - c) the asserted motivation for modifying Eanes in view of Ott is incorrect.
37. As to (a), Examiner respectfully disagrees. First, as defined by Applicant's specification on page 9, para. [0026], an ontology is "a metadata schema that provides

a formal, machine-processable, explicit specification of a set of terms". Further, as defined by Applicant's specification on page 10, para. [0029], a semantic interpretation specifications "express rules for handling the message using the published ontology". No further explicit definition is given as to what an ontology specification or semantic interpretation specification contain. As such, the EBNF rules for processing a document shown by Eanes in para. [0029]-[0044], and the example given by Eanes in para. [0057]-[0058] which shows an actual XML schema utilizing the EBNF rules to process particular messages meet the claim limitations.

38. Examiner has cited particular columns and line numbers and/or figures in the references as applied to the claims for the convenience of the applicant. Applicant is reminded that rejections are based on references as a whole and not just the cited passages. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the cited art or disclosed by the examiner.

39. As to (b), Examiner respectfully disagrees. As described in the portions of Ott cited in the rejection, Ott clearly teaches the use of an expert system that utilizes semantic rules expressed using the Java Expert System Shell (JESS) rule engine, just as Applicant has used in Applicant's disclosure. Further, Ott recites the reasoning as to

why an expert system would be used; that is, to "allow programs to be built that closely resemble human logic in their implementation and are therefore deemed suitable to solve these complex problems". (Ott para. [0058]). As such, Ott provides the general teaching of an expert system and the reasoning as to why it would be useful in systems that often require human intervention in implementing. Therefore, Ott's teachings, in combination with that of Eanes, are sufficient to meet the claim limitation.

40. As to (c), Examiner respectfully disagrees for the same reasoning as provided for (b).

Conclusion

41. The prior art made of record on the P.T.O. 892 that has not relied upon is considered pertinent to applicant's disclosure. Careful consideration of the cited art is required prior to responding to this Office Action, see 37 C.F.R. 1.111(c).

42. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP.

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

43. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Pantoliano Jr whose telephone number is (571) 270-1049. The examiner can normally be reached on Monday-Thursday, 8am - 4 pm EST.

45. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571)272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

46. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RP
08/28/2007


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER